TABLE 1040-1 SRW UNIT REQUIREMENTS				
Property	Requirement	Test Method		
Compressive Strength for SRW Units	4,000 psi min	ASTM C140		
Compressive Strength for Freeze-Thaw Durable SRW Units	5,500 psi min	ASTM C140		
Absorption	5% max	ASTM C140		
Durability for Freeze-Thaw Durable SRW Units	1% maxA	ASTM C1262		

A. Weight loss for 4 of 5 specimens after 150 cycles in water.

2 **1040-5 CEMENT**

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- 3 Portland cement shall meet Article 1024-1.
- 4 Masonry cement shall meet ASTM C91.
- **5 1040-6 HYDRATED LIME**
- 6 Hydrated lime shall meet ASTM C207 for Type N.
- **7 1040-7 MORTAR SAND**
- 8 Mortar sand shall meet Article 1014-1, except it shall meet the gradation requirements for
- 9 No. 4S sand shown in Table 1005-2.
- 10 **1040-8 WATER**
- Water shall meet Article 1024-4.
- 12 **1040-9 MORTAR**
- 13 Proportion mortar used in all brick and block masonry by volume as shown below. Do not
- add any more water than is necessary to make a workable mixture.
 - Mix No. 1: 1 part Portland cement

1/4 part hydrated lime

3 3/4 parts mortar sand (maximum)

Mix No. 2: 1 part Portland cement

1 part masonry cement

6 parts mortar sand (maximum)

- Apply Articles 1040-4, 1040-5, 1040-6 and 1040-7 to all cement, hydrated lime, mortar sand
- and water.
- 17 For the hydrated lime and cement portion of Mix No. 1, the Contractor may substitute
- 18 Type M or Type S masonry cement that meets ASTM C270 for Type S masonry cement the
- minimum compressive strength of the test specimens shall be 2,500 psi at 28 days and the test
- 20 specimens shall be composed of one part Type S masonry cement and 3 parts sand. Furnish
- 21 a Type 3 certification for the Type M or Type S masonry cement in accordance with
- 22 Article 106-3.

23 SECTION 1042 24 RIP RAP MATERIALS

- Use field stone or rough unhewn quarry stone for plain rip rap. Use stone that is sound,
- tough, dense, resistant to the action of air and water and suitable in all other respects for the
- 27 purpose intended. Where broken concrete from demolished structures or pavement is
- available, it may be used in place of stone provided that such use meets with the approval of
- the Engineer. However, the use of broken concrete that contains reinforcing steel will not be
- 30 permitted.

Section 1043

- 1 All stone shall meet the approval of the Engineer. While no specific gradation is required,
- 2 there shall be equal distribution of the various sizes of the stone within the required size
- 3 range. The size of an individual stone particle will be determined by measuring its long
- 4 dimension.
- 5 Stone or broken concrete for rip rap shall meet Table 1042-1 for the class and size
- 6 distribution.

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TABLE 1042-1 ACCEPTANCE CRITERIA FOR RIP RAP AND STONE FOR EROSION CONTROL				
Class	Required Stone Sizes, inches			
Class	Minimum	Midrange	Maximum	
A	2	4	6	
В	5	8	12	
1	5	10	17	
2	9	14	23	

No more than 5.0% of the material furnished can be less than the minimum size specified nor no more than 10.0% of the material can exceed the maximum size specified.

SECTION 1043 AGGREGATE FROM CRUSHED CONCRETE

1043-1 GENERAL

- 12 Aggregate from crushed concrete is a recycled product made by crushing concrete obtained
- from concrete truck clean out, demolition of existing concrete structures or pavement, or
- similar sources and transported from a crushing facility. It does not include concrete
- payements that are rubblelized, broken or otherwise crushed in place on the roadway.
- 16 The crushed material must meet all sources approval requirements described in Sections 1005
- and 1006 with the exception of the sodium sulfate test requirement. Deleterious materials
- shall not be more than 3%.
- 19 Sampling and acceptance for the determination of gradaction, LL and PI will be performed as
- described in the Aggregate QC/QA Program Manual and the Aggregate Sampling Manual.

21 **1043-2 AGGREGATE BASE COURSE**

- The material shall meet the ABC gradation. The LL of the material shall be raised 5 points to
- 23 no more than 35.

1043-3 AGGREGATE SHOULDER BORROW

25 The material shall meet Section 1019.

1043-4 CLEAN COARSE AGGREGATE FOR ASPHALT

- 27 The material shall meet the gradation of a standard size in Table 1005-1. Use of the material
- shall be approved by the Engineer, and the mix shall meet all requirements.

29 1043-5 CLEAN COARSE AGGREGATE FOR CONCRETE

- The material shall meet the gradation of a standard size in Table 1005-1. Use of the material
- 31 is restricted to Class B concrete mixes only. Use of the material shall be approved by the
- Engineer, and the concrete shall meet all requirements.

SECTION 1044 SUBSURFACE DRAINAGE MATERIALS

1044-1 SUBDRAIN FINE AGGREGATE

Subdrain fine aggregate shall meet No. 2S or 2MS in Table 1005-2.